SHAPE-BASED GEOMETRY ENGINE TO PERFORM SMOOTHING
AND OTHER LAYOUT BEAUTIFICATION OPERATIONS

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ABSTRACT OF THE DISCLOSURE

A shape-based layout beautification operation can be performed on an IC layout to correct layout imperfections. A shape is described by edges (and vertices) related according to specified properties. Each shape can be configured to match specific layout imperfection types. Corrective actions can then be associated with the shapes, advantageously enabling efficient formulation and precise application of those corrective actions. Corrective actions can include absolute, adaptive, or replacement-type modifications to the detected layout imperfections. A concurrent processing methodology can be used to minimize processing overhead during layout beautification, and the actions can also be incorporated into a lookup table to further reduce runtime. A layout beautification system can also be connected to a network across which shapes, actions, and IC layout data files can be accessed and retrieved.